

N61165.AR.005679
CNC CHARLESTON
5090.3a

UNDERGROUND STORAGE TANK (UST) ASSESSMENT REPORT DATED 3 FEBRUARY
1997 FOR BUILDING NH-1137 WITH SOUTH CAROLINA DEPARTMENT OF HEALTH AND
ENVIRONMENTAL CONTROL REVIEW LETTER CNC CHARLESTON SC
03/06/1997
NAVFAC SOUTHERN

Mr. Gabriel L. Magwood
Southern Division NFEC
P.O. Box 190010
2155 Eagle Drive
North Charleston, South Carolina 29419-9010

Re: Underground Storage Tank Assessment Report dated (received) February 3, 1997
Building NH-1137 (1 UST/1 AST) (DHEC Site Identification # 17754)
Charleston Naval Complex/Charleston Naval Base
Charleston, SC
Charleston County

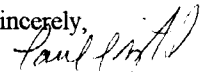
Date: March 6, 1997

Dear Mr. Magwood:

The author has completed technical review of the referenced document. As submitted, the report provides analytical results of environmental sampling conducted to determine if releases have occurred from operation of the referenced underground storage tank, aboveground storage tank and/or associated piping system. The results presented indicate elevated levels of polynuclear aromatic hydrocarbons (PAH) were detected in soils grab samples obtained from the tank pit. Further, a petroleum product film was observed on accumulated groundwater in the tank pit. These results exceed levels proposed in the Soil Corrective Action Plan (amended February 4, 1997) for the Charleston Naval Complex and appear to indicate that additional endeavors for remedial actions (soils removal) and contamination characterization are warranted for the UST system at the referenced site. In this regard, assessment/corrective action activities provided in the Tank Management Plan (dated October 18, 1996) should be implemented in an appropriate and timely manner. Please be reminded that groundwater sampling (if necessary) will require construction of sampling points and will need to be submitted for prior review and approval, as appropriate.

Based on the information presented for the AST system, it appears that no additional endeavors for remedial actions and/or contamination characterization are warranted at this time. Please be aware that if in the future contamination is identified which is attributable to this system, additional assessment and/or remedial endeavors may be required, as appropriate.

Should you have any questions, please contact me at (803) 734-5328.

Sincerely,

Paul L. Bristol, Hydrogeologist
Groundwater Assessment and Development Section
Bureau of Water

cc: Trident District EQC



DEPARTMENT OF THE NAVY

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
P.O. BOX 190010
2155 EAGLE DRIVE
NORTH CHARLESTON, S.C. 29419-9010

Li 2.19.97
L63.11.97

5090
Code 1849
31 Jan 1997

RECEIVED

FEB 03 1997

Groundwater Assessment
and Development Section

Mr. Paul Bristol
South Carolina Department of Health
and Environmental Control
Ground-Water Protection Division
2600 Bull Street
Columbia, SC 29201

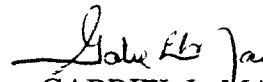
**UST ASSESSMENT REPORT FOR: UST 240, UST NH 1137-1 and NH 1137-2, NS
4-TNK -1, UST 1708 and NH 46 CHARLESTON NAVAL COMPLEX,
CHARLESTON, SC**

Dear Mr. Bristol:

Enclosed are the Assessment Reports for the closure of underground storage tanks 240,
NH 1137-1 and 2, NS 4-tnk-1, 1708 and NH 46 located at the Charleston Naval
Complex, Charleston, SC.

If you have any questions, please contact me at 803-820-7307.

Sincerely,


GABRIEL L. MAGWOOD
Petroleum/UST

UST 240 - 2.5.97 BUSTWA
NH 1137 - 17754
AST 1708 - 15405 (General)
NS 4 - 17595 (Bldg NS 2)
NH 46 - 17755

Encl:
(1) UST Assessment Report

17754

Li 2.19.97
Lo 3.11.97South Carolina Department of Health and Environmental Control (S.C.D.H.E.C.)
Underground Storage Tank (UST) Assessment Report**RECEIVED**
FEB 03 1997
Groundwater Assessment
and Development Section

Date Received

State Use Only

Submit Completed Form to
UST Regulatory Section
SCDHEC
2600 Bull Street
Columbia, South Carolina 29201
Telephone (803) 734-5331**I OWNERSHIP OF UST(S)**

Agency/Owner: Southern Division, Naval Facilities Engineering Command, Caretaker Site Office

Mailing Address: P.O. Box 190010

City: N. Charleston

State: SC

Zip Code: 29419-9010

Area Code: 803 Telephone Number: 743-9985 Contact Person: LCDR Paul Rose

II SITE IDENTIFICATION AND LOCATION

Site I.D. #: Unregulated

17754

Facility Name: Charleston Naval Base Complex, NH 1137

Street Address: Turnbull Avenue

City: North Charleston, 29405-2413

County: Charleston

III CLOSURE INFORMATION

Closure Started: 2 August 1996

Closure Completed: 19 August 1996

Number of USTs Closed: 1, and 1 AST

N/A

SPORTENVDETHASN

Consultant

UST Removal Contractor

IV. CERTIFICATION (Read and Sign after completing entire submittal)

I certify that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate and complete.

LCDR Paul Rose

Name (Type or Print)



Signature

V. UST INFORMATION

- A. Product.....
- B. Capacity.....
- C. Age.....
- D. Construction Material.....
- E. Month/Year of Last Use.....
- F. Depth (ft.) To Base of Tank.....
- G. Spill Prevention Equipment Y/N.....
- H. Overfill Prevention Equipment Y/N.....
- I. Method of Closure Removed/Filled.....
- J. Visible Corrosion or Pitting Y/N.....
- K. Visible Holes Y/N.....

Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
AST	UST				
1137-1	1137-2				
Fuel oil	Fuel oil				
1,000 gal.	1,000 gal.				
Unk.	1940				
Steel	Steel				
Unk.	Unk.				
N/A	6'				
N	N				
N	N				
R	R				
N	Y				
N	Y				

- L. Method of disposal for any USTs removed from the ground (attach disposal manifests)

AST 1137-1 and UST 1137-2 were removed, drained, cut open at both ends, and cleaned with a steam cleaner. They were then cut up for recycling as scrap metal. (See Attachment III.)

- M. Method of disposal for any liquid petroleum, sludges, or waste waters removed from the USTs (attach disposal manifests)

The sludge, waste water, and residual fuel oil were recycled.

- N. If any corrosion, pitting, or holes were observed, describe the location and extent for each UST

AST 1137-1 was in good condition and contained no holes or leaks. UST 1137-2, although covered with a protective coating, suffered three holes approximately 1" in diameter. The first hole was midway on the diameter of the east end, the second was on the bottom middle section, and the third was on the bottom of the west end.

VI. PIPING INFORMATION

- A. Construction Material.....
- B. Distance from UST to Dispenser.....
- C. Number of Dispensers.....
- D. Type of System P/S.....
- E. Was Piping Removed from the Ground? Y/N....
- F. Visible Corrosion or Pitting Y/N.....
- G. Visible Holes Y/N.....
- H. Age.....

Note 1: The tanks provided fuel oil to the boiler of NH 1137's boiler house.

- I. If any corrosion, pitting, or holes were observed, describe the location and extent for each line.

The UST supply and ventilation lines were found disconnected from the tank. The supply line had been partially removed and abandoned in place. There is no record of when this occurred. The abandoned segment of supply line had numerous holes throughout its length.

VII. BRIEF SITE DESCRIPTION AND HISTORY

Building NH 1137 is a one story wood framed building that was constructed in 1942. NH 1137 was originally a hospital ward. Prior to base closure half of the building was used to store non-hazardous materials by Morale, Welfare, and Recreation and the other half was administrative offices.

The boiler house behind NH 1137 supplied steam to the complex. Two unregulated, 1000 gallon steel tanks provided fuel to the boiler. UST NH1137-2 was an abandoned tank buried in front of the boiler house. AST NH1137-1 was behind the boiler house, surrounded by a concrete berm. It was the source of fuel prior to closure.

The three holes found in UST NH 1137-2 (section V. N.) allowed for an exchange of the remaining fuel/sludge with the ground water, this was evident during removal. The product film was absorbed from the ground water prior to backfilling the tank pit.

Tank 1 AST 1137-1 Steel	Tank 2 UST 1137-2 Steel	Tank 3	Tank 4	Tank 5	Tank 6
6'	5'				
1 See Note 1	1 See Note 1				
S	S				
Y	Y				
N	Y				
N	Y				
Unk.	1940				

VIII. SITE CONDITIONS

Yes No Unk

<p>A. Were any petroleum-stained or contaminated soils found in the UST excavation, soil borings, trenches, or monitoring wells?</p> <p>If yes, indicate depth and location on the site map.</p>	<p>X</p>		
<p>B. Were any petroleum odors detected in the excavation, soil borings, trenches, or monitoring wells?</p> <p>If yes, indicate location on site map and describe the odor (strong, mild, etc.)</p>	<p>X</p>		
<p>C. Was water present in the UST excavation, soil borings, or trenches?</p> <p>If yes, how far below land surface (indicate location and depth)? UST excavation, 6' below GSL</p>	<p>X</p>		
<p>D. Did contaminated soils remain stockpiled on site after closure?</p> <p>If yes, indicate the stockpile location on the site map.</p> <p>Name of DHEC representative authorizing soil removal:</p>		<p>**X</p>	
<p>E. Was a petroleum sheen or free product detected on any excavation or boring waters?</p> <p style="text-align: right;">[*Excavation groundwater, no appreciable thickness.]</p> <p>If yes, indicate location and thickness.</p>	<p>*X</p>		

** Angular rock was used to fill the area covered by the groundwater. Geofabric was laid over the rock and then all soil from the excavation was returned to the tank pit.

IX. SAMPLE INFORMATION

S.C.D.H.E.C. Lab Certification Number 10120

[illegible]

* = Depth Below the Surrounding Land Surface

X. SAMPLING METHODOLOGY

Provide a detailed description of the methods used to collect and store (preserve) the samples.

After the removal of AST 1137-1 and UST 1137-2 soil and ground water samples were taken. Sampling was performed in accordance with SC DHEC R.61-92 Part 280 and SC DHEC UST Assessment Guidelines.

The samples are identified as follows:

	Detachment Charleston		General Engineering Labs
Soil Sample	UST1137-1	=	SPORT -0134-1
Soil Sample	UST1137-2	=	SPORT -0134-2
Ground Water Sample	UST1137-3	=	SPORT -0134-3
Soil Sample	UST1137-4	=	SPORT -0134-4
Soil Sample	UST1137-5	=	SPORT -0134-5
Soil Sample	UST1137-6	=	SPORT -0134-6
Soil Sample	UST1137-7	=	SPORT -0134-7
Soil Sample	UST1137-8	=	SPORT -0134-8
Soil Sample	UST1137-9	=	SPORT -0134-9
Soil Sample	UST1137-10	=	SPORT -0134-10
Soil Sample	UST1137-11	=	SPORT -0134-11
Soil Sample	UST1137-12	=	SPORT -0134-12

Sample jars were prepared by the testing laboratory. The grab method was utilized to fill the sample containers leaving as little head space as possible and immediately capped. Soil samples were extracted at the tank ends just above the ground water level. Piping soil samples were taken under the piping at the center of the pipe runs. Ground water samples were taken at the bottom of the excavation as marked in Site Map 4.

The samples were marked, logged, and immediately placed in sample coolers packed with ice to maintain an approximate temperature of 4° C. Tools were thoroughly cleaned and decontaminated with organic-free soap and water after each sample.

The samples remained in the custody of SPORTENVDETHASN until they were transferred to General Engineering Laboratories for analysis as documented in the attached Chain-of-Custody Record.

XI. RECEPTORS

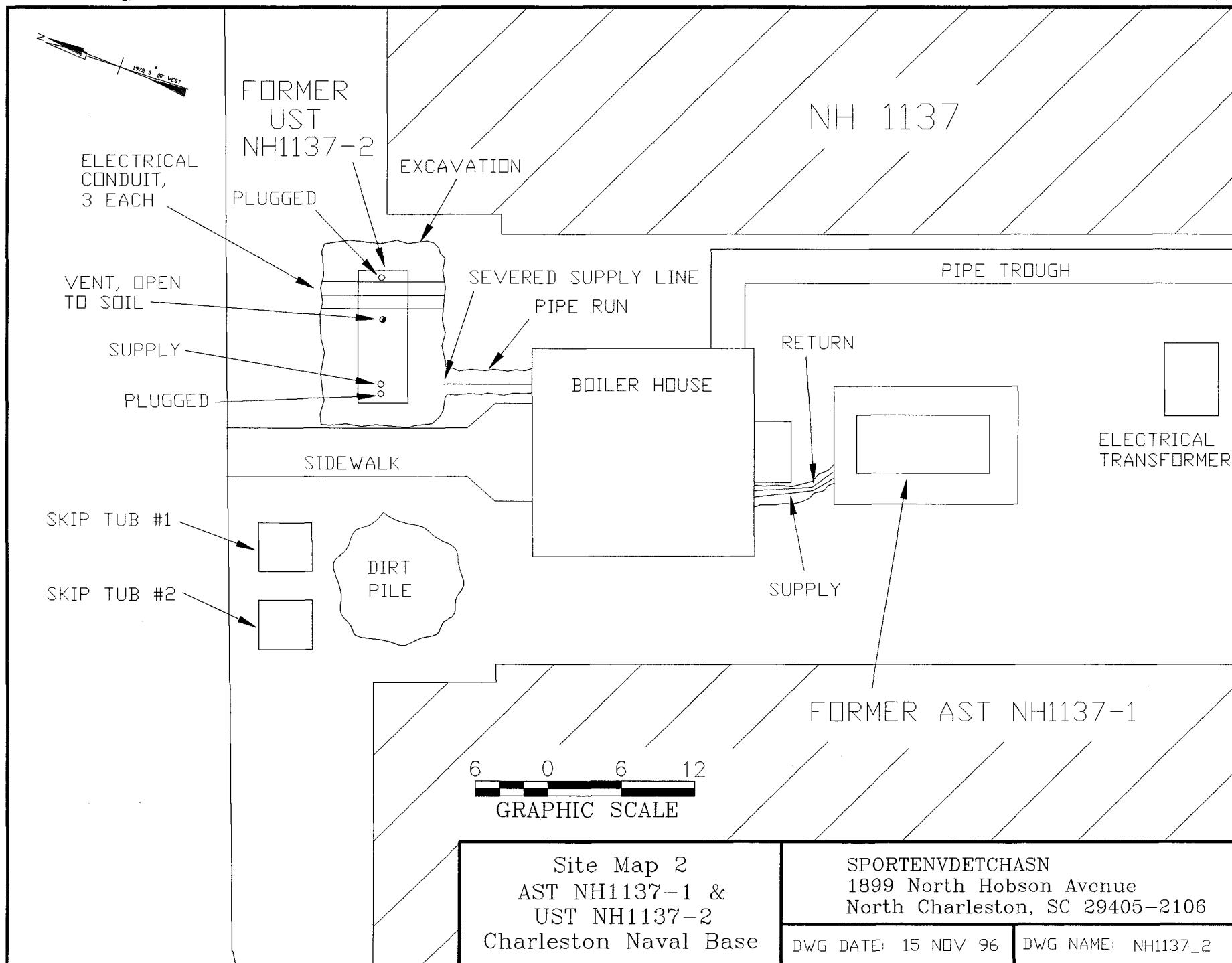
Yes No

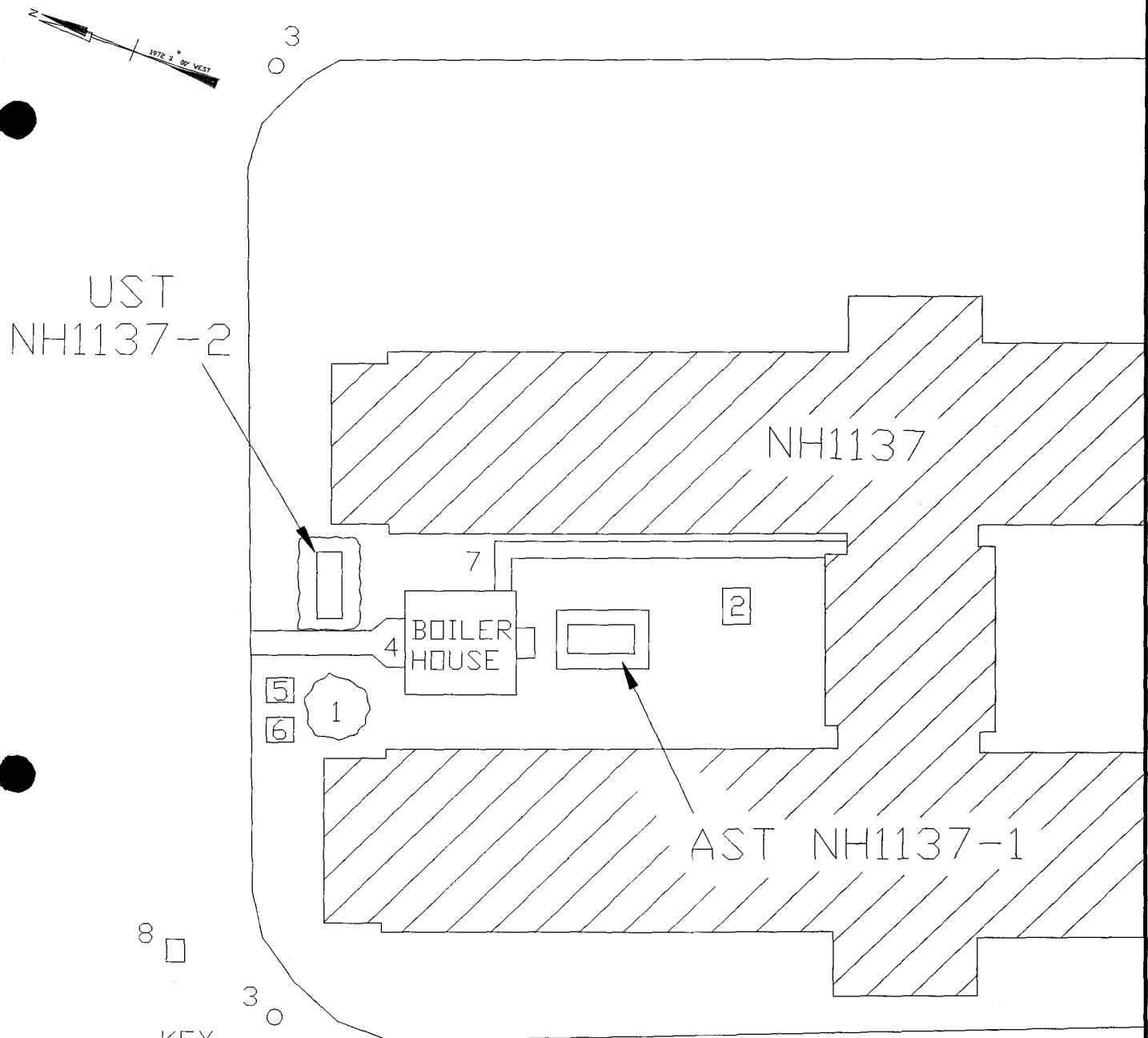
A.	Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system? If yes, indicate type of receptor, distance, and direction on site map.		X
B.	Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system? If yes, indicate type of well, distance, and direction on site map.		X
C.	Are there any underground structures (e.g., basements) located within 100 feet of the UST system? If yes, indicate the type of structure, distance, and direction on site map.		X
D.	Are there any underground utilities (e.g., telephone, electricity, gas, water, sewer, storm drain) located within 100 feet of the UST system that could potentially come in contact with the contamination? <div style="text-align: right;">[*Sewer]</div> If yes, indicate the type of utility, distance, and direction on the site map.	*X	
E.	Has contaminated soil been identified at a depth of less than 3 feet below land surface in an area that is not capped by asphalt or concrete? If yes, indicate the area of contaminated soil on the site map.		X

SITE MAP

You must supply a scaled site map. It should include all buildings, road names, utilities, tank and pump island locations, sample locations, extent of excavation, and any other pertinent information.

Site Maps 1, 2, 3, and 4
Photographs 1, 2, and 3





KEY

- 1 - DIRT PILE
- 2 - ELECTRICAL TRANSFORMER
- 3 - SEWER MANHOLE
- 4 - SIDEWALK
- 5 - SKIP TUB #1
- 6 - SKIP TUB #2
- 7 - STEAM LINE PIPE RUN IN BLOCK-COVERED CONCRETE TROUGH
- 8 - STORM DRAIN

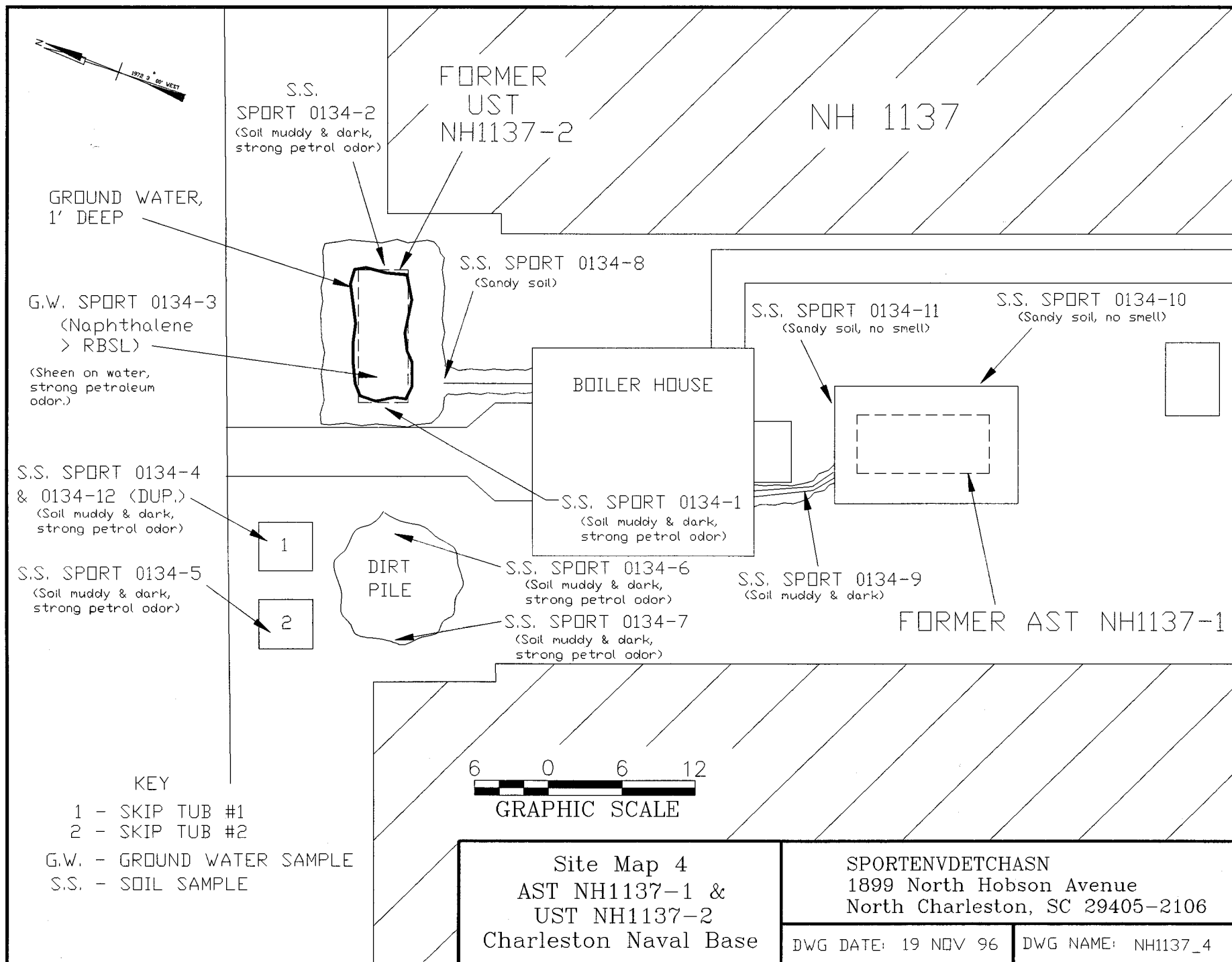


Site Map 3
AST NH1137-1 &
UST NH1137-2
Charleston Naval Base

SPORTENVDETHASN
1899 North Hobson Avenue
North Charleston, SC 29405-2106

DWG NAME: NH1137_3

DWG DATE: 14 NOV 96



UST NH1137-2



Photo 1: UST NH1137-2 being removed from the excavation.

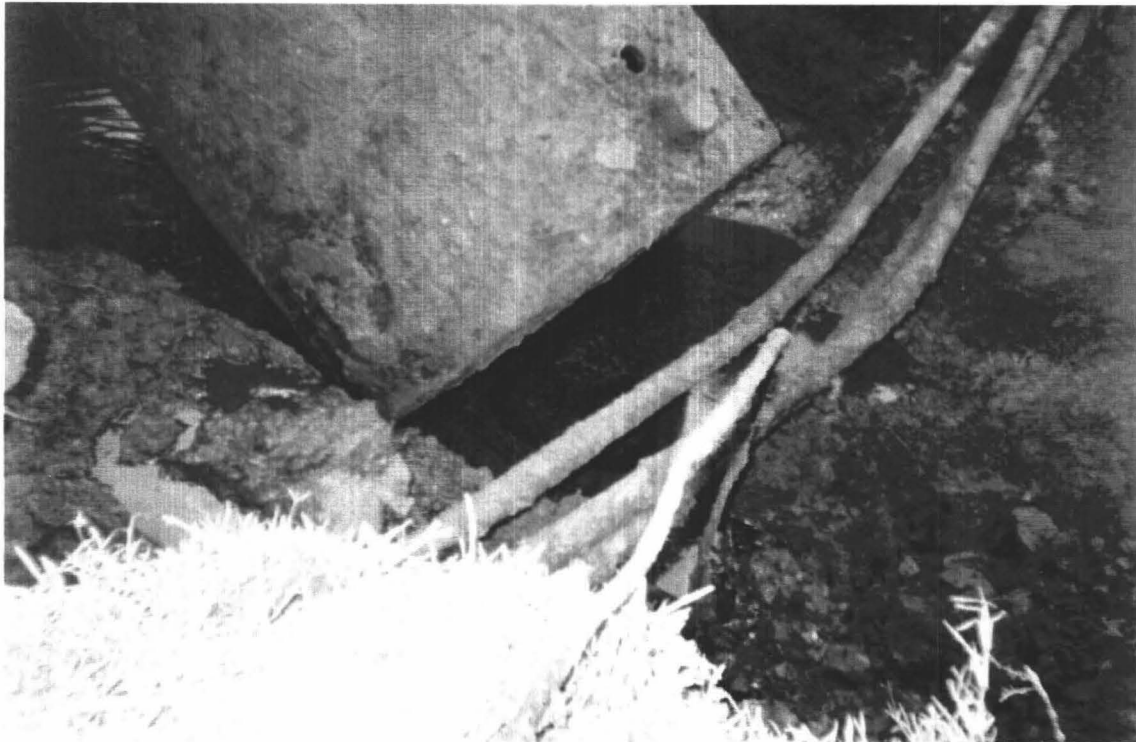


Photo 2: Close up of the east end of UST NH1137-2 during removal.



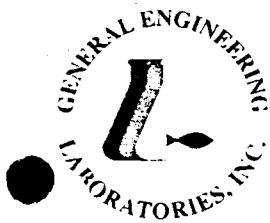
Photo 3: UST NH137-2 excavation after removal. Note the product film on the ground water.

Attachment II

ANALYTICAL RESULTS

You must submit the laboratory report and chain-of-custody form for the samples. These samples must be analyzed by a South Carolina certified laboratory.

Certified Analytical Results
Chain-of-Custody



GENERAL ENGINEERING LABORATORIES

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CERTIFICATE OF ANALYSIS

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106
Contact: Mr. Bill Hiers
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

Page 1 of 3

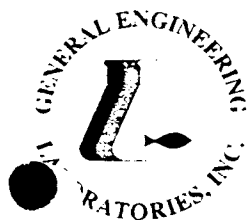
Sample ID : SPORT0134-1
Lab ID : 9608162-01
Matrix : Soil
Date Collected : 08/07/96
Date Received : 08/08/96
Priority : Routine
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
TEX - 4 items											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	THL	08/14/96	1543	88745	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene		2.13	1.00	2.00	ug/kg	1.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	652	1300	ug/kg	4.0	JCB	08/13/96	2234	88642	2
Acenaphthylene	U	0.00	652	1300	ug/kg	4.0					
Anthracene	U	0.00	652	1300	ug/kg	4.0					
Benzo(a)anthracene	U	0.00	652	1300	ug/kg	4.0					
Benzo(a)pyrene	U	0.00	652	1300	ug/kg	4.0					
Benzo(b)fluoranthene	U	0.00	652	1300	ug/kg	4.0					
Benzo(ghi)perylene	U	0.00	652	1300	ug/kg	4.0					
Benzo(k)fluoranthene	U	0.00	652	1300	ug/kg	4.0					
Chrysene	U	0.00	652	1300	ug/kg	4.0					
Dibenzo(a,h)anthracene	U	0.00	652	1300	ug/kg	4.0					
Fluoranthene	U	0.00	652	1300	ug/kg	4.0					
Fluorene	U	0.00	652	1300	ug/kg	4.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	652	1300	ug/kg	4.0					
Naphthalene	U	0.00	652	1300	ug/kg	4.0					
Phenanthrene	U	0.00	652	1300	ug/kg	4.0					
Pyrene	U	0.00	652	1300	ug/kg	4.0					

The following prep procedures were performed:
GC/MS Base/Neutral Compounds

TNF 08/12/96 0900 88642 3





GENERAL ENGINEERING LABORATORIES

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CERTIFICATE OF ANALYSIS

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

Page 2 of 3

Sample ID : SPORT0134-1

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	78.4	(30.0 - 115.)
Nitrobenzene-d5	M610	56.0	(23.0 - 120.)
p-Terphenyl-d14	M610	109.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	106.	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	105.	(74.0 - 128.)
Toluene-d8	BTEX-8260	103.	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	106.	(59.7 - 159.)
Bromofluoromethane	NAP-8260	105.	(74.0 - 128.)
Toluene-d8	NAP-8260	103.	(53.4 - 163.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

GEL Laboratory Certifications

AL - 41040
CA - 2089

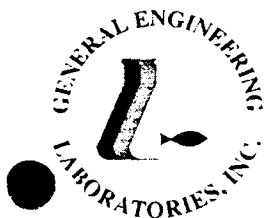
AZ - AZ0514
CT - PH-0169

EPI Laboratory Certifications

AL - 41050
CA - I-1023/2056

AZ - AZ0514
CT - PH-0175





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Page 3 of 3

Sample ID : SPORT0134-1

GEL Laboratory Certifications

DE - SC012	FL - E87156/87294
ME - SC012	MS - 10120
NC - 233	NY - 11501
RI - 135	SC - 10120
TN - 02934	UT - E-251
VA - 00151	WA - C223
WI - 999887790	WV - 236

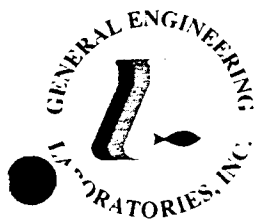
EPI Laboratory Certifications

FL - E87472/87458	MS - 29417
NY - 11502	RI - 138
SC - 10582	TN - 02934
UT - E-227	VA - 00111
WA - C225	NJ - 79002
PA - 68-485	WV - 235

This data report has been prepared and reviewed
in accordance with General Engineering Laboratories
standard operating procedures. Please direct
any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

Karen Blakeney
Analytical Report Specialist





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Page 1 of 3

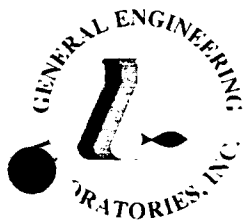
Sample ID : SPORT0134-2
Lab ID : 9608162-02
Matrix : Soil
Date Collected : 08/07/96
Date Received : 08/08/96
Priority : Routine
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
EX - 4 items											
Benzene	U	0.00	10.0	20.0	ug/kg	10.	THL	08/14/96	1612	88745	1
Ethylbenzene	U	0.00	10.0	20.0	ug/kg	10.					
Toluene	U	0.00	10.0	20.0	ug/kg	10.					
Xylenes (TOTAL)	U	0.00	10.0	20.0	ug/kg	10.					
Naphthalene	U	0.00	10.0	20.0	ug/kg	10.					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	664	1330	ug/kg	4.0	JCB	08/13/96	2306	88642	2
Acenaphthylene	U	0.00	664	1330	ug/kg	4.0					
Anthracene	U	0.00	664	1330	ug/kg	4.0					
Benzo(a)anthracene	U	0.00	664	1330	ug/kg	4.0					
Benzo(a)pyrene	U	0.00	664	1330	ug/kg	4.0					
Benzo(b)fluoranthene	U	0.00	664	1330	ug/kg	4.0					
Benzo(ghi)perylene	U	0.00	664	1330	ug/kg	4.0					
Benzo(k)fluoranthene	U	0.00	664	1330	ug/kg	4.0					
Chrysene	U	0.00	664	1330	ug/kg	4.0					
Dibenzo(a,h)anthracene	U	0.00	664	1330	ug/kg	4.0					
Fluoranthene	U	0.00	664	1330	ug/kg	4.0					
Fluorene	U	0.00	664	1330	ug/kg	4.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	664	1330	ug/kg	4.0					
Naphthalene	U	0.00	664	1330	ug/kg	4.0					
Phenanthrene	U	0.00	664	1330	ug/kg	4.0					
Pyrene	U	0.00	664	1330	ug/kg	4.0					

Following prep procedures were performed:
GC/MS Base/Neutral Compounds

TNF 08/12/96 0900 88642 3





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Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

Page 2 of 3

Sample ID : SPORT0134-2

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	253.*	(30.0 - 115.)
Nitrobenzene-d5	M610	194.*	(23.0 - 120.)
p-Terphenyl-d14	M610	412.*	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	96.0	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	107.	(74.0 - 128.)
Toluene-d8	BTEX-8260	99.5	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	96.0	(59.7 - 159.)
bromofluoromethane	NAP-8260	107.	(74.0 - 128.)
luene-d8	NAP-8260	99.5	(53.4 - 163.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

GEL Laboratory Certifications

AL - 41040
CA - 2089

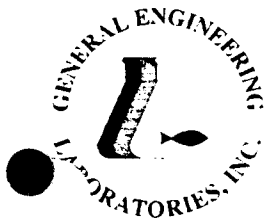
AZ - AZ0514
CT - PH-0169

EPI Laboratory Certifications

AL - 41050
CA - I-1023/2056

AZ - AZ0514
CT - PH-0175





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North Charleston, South Carolina 29405-2106
Contact: Mr. Bill Hiers
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

Page 3 of 3

Sample ID : SPORT0134-2

GEL Laboratory Certifications

DE - SC012	FL - E87156/87294
ME - SC012	MS - 10120
NC - 233	NY - 11501
RI - 135	SC - 10120
TN - 02934	UT - E-251
VA - 00151	WA - C223
WI - 999887790	WV - 236

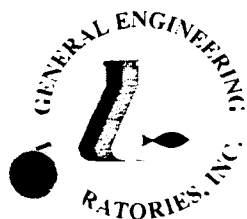
EPI Laboratory Certifications

FL - E87472/87458	MS - 29417
NY - 11502	RI - 138
SC - 10582	TN - 02934
UT - E-227	VA - 00111
WA - C225	NJ - 79002
PA - 68-485	WV - 235

As data report has been prepared and reviewed
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standard operating procedures. Please direct
any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

Karen Blakeney
Analytical Report Specialist





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1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106
Contact: Mr. Bill Hiers
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

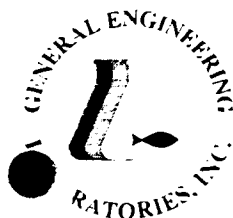
Report Date: August 19, 1996

Page 1 of 3

Sample ID : SPORT0134-3
Lab ID : 9608162-03
Matrix : GroundH2O
Date Collected : 08/07/96
Date Received : 08/08/96
Priority : Routine
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
EX - 4 items											
Benzene	U	0.00	50.0	100	ug/l	50.	RMB	08/13/96	1529	88699	1
Ethylbenzene	J	90.0	50.0	100	ug/l	50.					
Toluene	U	0.00	50.0	100	ug/l	50.					
Xylenes (TOTAL)	U	0.00	50.0	100	ug/l	50.					
Methyl Tert Butyl Ether	U	0.00	50.0	100	ug/l	50.					
Naphthalene		2110	50.0	100	ug/l	50.					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	400	800	ug/l	40.	RLC	08/14/96	1501	88645	2
Acenaphthylene	U	0.00	400	800	ug/l	40.					
Anthracene	U	0.00	400	800	ug/l	40.					
Benzo(a)anthracene	U	0.00	400	800	ug/l	40.					
Benzo(a)pyrene	U	0.00	400	800	ug/l	40.					
Benzo(b)fluoranthene	U	0.00	400	800	ug/l	40.					
Benzo(ghi)perylene	U	0.00	400	800	ug/l	40.					
Benzo(k)fluoranthene	U	0.00	400	800	ug/l	40.					
Chrysene	U	0.00	400	800	ug/l	40.					
Dibenzo(a,h)anthracene	U	0.00	400	800	ug/l	40.					
Fluoranthene	U	0.00	400	800	ug/l	40.					
Fluorene	U	0.00	400	800	ug/l	40.					
Indeno(1,2,3-c,d)pyrene	U	0.00	400	800	ug/l	40.					
Naphthalene		3140	400	800	ug/l	40.					
Phenanthrene	U	0.00	400	800	ug/l	40.					
Pyrene	U	0.00	400	800	ug/l	40.					





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Contact: Mr. Bill Hiers
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 19, 1996

Page 2 of 3

Sample ID : SPORT0134-3

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
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The following prep procedures were performed:

GC/MS Base/Neutral Compounds

TSD 08/12/96 1500 88645 3

Surrogate Recovery	Test	Percent%	Acceptable Limits
Fluorobiphenyl	M610	110.*	(43.0 - 108.)
Nitrobenzene-d5	M610	106.	(35.0 - 111.)
p-Terphenyl-d14	M610	144.*	(33.0 - 125.)
Bromofluorobenzene	BTEX-8260	104.	(80.0 - 128.)
Dibromofluoromethane	BTEX-8260	117.	(67.7 - 135.)
Toluene-d8	BTEX-8260	106.	(76.8 - 122.)
Bromofluorobenzene	MTBE-8260	104.	(80.0 - 128.)
Dibromofluoromethane	MTBE-8260	117.	(67.7 - 135.)
Toluene-d8	MTBE-8260	106.	(76.8 - 122.)
Bromofluorobenzene	NAP-8260	104.	(80.0 - 128.)
Dibromofluoromethane	NAP-8260	117.	(67.7 - 135.)
Toluene-d8	NAP-8260	106.	(76.8 - 122.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3510

Notes:

The qualifiers in this report are defined as follows:

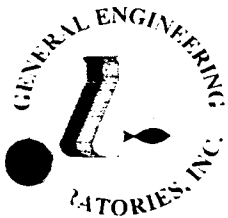
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

* indicates that the analyte was not detected at a concentration greater than the detection limit.

● indicates that a quality control analyte recovery is outside of specified acceptance criteria.





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Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 19, 1996

Page 3 of 3

Sample ID : SPORT0134-3

GEL Laboratory Certifications

EPI Laboratory Certifications

AL - 41040
CA - 2089
DE - SC012
ME - SC012
NC - 233
RI - 135
TN - 02934
VA - 00151
WV - 999887790

AZ - AZ0514
CT - PH-0169
FL - E87156/87294
MS - 10120
NY - 11501
SC - 10120
UT - E-251
WA - C223
WV - 236

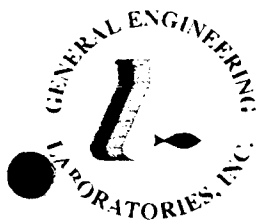
AL - 41050
CA - I-1023/2056
FL - E87472/87458
NY - 11502
SC - 10582
UT - E-227
WA - C225
PA - 68-485

AZ - AZ0514
CT - PH-0175
MS - 29417
RI - 138
TN - 02934
VA - 00111
NJ - 79002
WV - 235

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Contact: Mr. Bill Hiers
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

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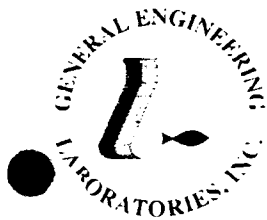
Sample ID : SPORT0134-4
Lab ID : 9608162-04
Matrix : Soil
Date Collected : 08/07/96
Date Received : 08/08/96
Priority : Routine
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>TEX - 4 items</i>											
Benzene	U	0.00	10.0	20.0	ug/kg	10.	THL	08/14/96	1641	88745	1
Ethylbenzene	U	0.00	10.0	20.0	ug/kg	10.					
Toluene	U	0.00	10.0	20.0	ug/kg	10.					
Xylenes (TOTAL)	U	0.00	10.0	20.0	ug/kg	10.					
Naphthalene	J	12.6	10.0	20.0	ug/kg	10.					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	830	1660	ug/kg	1.0	JCB	08/13/96	2337	88642	2
Acenaphthylene	U	0.00	830	1660	ug/kg	1.0					
Anthracene	U	0.00	830	1660	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	830	1660	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	830	1660	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	830	1660	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	830	1660	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	830	1660	ug/kg	1.0					
Chrysene	U	0.00	830	1660	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	830	1660	ug/kg	1.0					
Fluoranthene	U	0.00	830	1660	ug/kg	1.0					
Fluorene	U	0.00	830	1660	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	830	1660	ug/kg	1.0					
Naphthalene	U	0.00	830	1660	ug/kg	1.0					
Phenanthrene		2240	830	1660	ug/kg	1.0	WAM	08/13/96	2337	88642	2
Pyrene	U	0.00	830	1660	ug/kg	1.0	JCB	08/13/96	2337	88642	2

ie following prep procedures were performed:
GC/MS Base/Neutral Compounds

TNF 08/12/96 0900 88642 3





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Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

Page 2 of 3

Sample ID : SPORT0134-4

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
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Comments:

A dilution was required for Volatile Organics due to matrix interference.
As a result, the detection limits are elevated.

Surrogate Recovery	Test	Percent%	Acceptable Limits
Fluorobiphenyl	M610	85.8	(30.0 - 115.)
Nitrobenzene-d5	M610	77.0	(23.0 - 120.)
p-Terphenyl-d14	M610	103.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	114.	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	109.	(74.0 - 128.)
Toluene-d8	BTEX-8260	104.	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	114.	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	109.	(74.0 - 128.)
Toluene-d8	NAP-8260	104.	(53.4 - 163.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

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ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

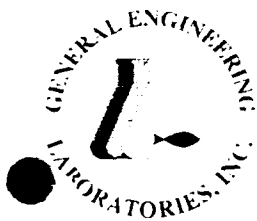
U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

EL Laboratory Certifications

EPI Laboratory Certifications





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North Charleston, South Carolina 29405-2106
Contact: Mr. Bill Hiers
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

Page 3 of 3

Sample ID : SPORT0134-4

GEL Laboratory Certifications

AL - 41040
CA - 2089
DE - SC012
ME - SC012
NC - 233
RI - 135
TN - 02934
VA - 00151
WV - 999887790

AZ - AZ0514
CT - PH-0169
FL - E87156/87294
MS - 10120
NY - 11501
SC - 10120
UT - E-251
WA - C223
WV - 236

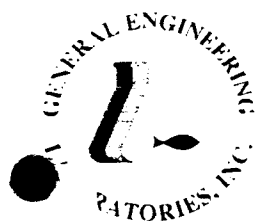
EPI Laboratory Certifications

AL - 41050
CA - I-1023/2056
FL - E87472/87458
NY - 11502
SC - 10582
UT - E-227
WA - C225
PA - 68-485
AZ - AZ0514
CT - PH-0175
MS - 29417
RI - 138
TN - 02934
VA - 00111
NJ - 79002
WV - 235

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Project Description: SUPSHIP-Portsmouth Detachment

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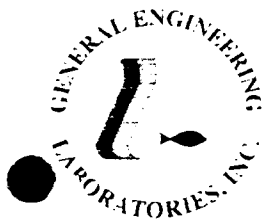
Sample ID : SPORT0134-5
Lab ID : 9608162-05
Matrix : Soil
Date Collected : 08/07/96
Date Received : 08/08/96
Priority : Routine
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
EX - 4 items											
Azene	U	0.00	10.0	20.0	ug/kg	10.	THL	08/14/96	1711	88745	1
Ethylbenzene	U	0.00	10.0	20.0	ug/kg	10.					
Toluene	U	0.00	10.0	20.0	ug/kg	10.					
Xylenes (TOTAL)	U	0.00	10.0	20.0	ug/kg	10.					
Naphthalene	U	7.50	10.0	20.0	ug/kg	10.					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	830	1660	ug/kg	1.0	JCB	08/14/96	0008	88642	2
Acenaphthylene	U	0.00	830	1660	ug/kg	1.0					
Anthracene	U	0.00	830	1660	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	830	1660	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	830	1660	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	830	1660	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	830	1660	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	830	1660	ug/kg	1.0					
Chrysene	U	0.00	830	1660	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	830	1660	ug/kg	1.0					
Fluoranthene	U	0.00	830	1660	ug/kg	1.0					
Fluorene	U	0.00	830	1660	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	830	1660	ug/kg	1.0					
Naphthalene	U	0.00	830	1660	ug/kg	1.0					
Phenanthrene	U	0.00	830	1660	ug/kg	1.0					
Pyrene	U	0.00	830	1660	ug/kg	1.0					

Following prep procedures were performed:
GC/MS Base/Neutral Compounds

TNF 08/12/96 0900 88642 3





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Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

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Page 2 of 3

Sample ID : SPORT0134-5

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
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Comments:

A dilution was required for Volatile Organics due to matrix interference.
As a result, the detection limits are elevated.

Surrogate Recovery	Test	Percent%	Acceptable Limits
Fluorobiphenyl	M610	62.6	(30.0 - 115.)
Nitrobenzene-d5	M610	57.6	(23.0 - 120.)
p-Terphenyl-d14	M610	101.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	103.	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	102.	(74.0 - 128.)
Toluene-d8	BTEX-8260	104.	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	103.	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	102.	(74.0 - 128.)
Toluene-d8	NAP-8260	104.	(53.4 - 163.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

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ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

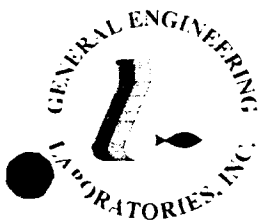
U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

EL Laboratory Certifications

EPI Laboratory Certifications





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North Charleston, South Carolina 29405-2106
Contact: Mr. Bill Hiers
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

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Sample ID : SPORT0134-5

GEL Laboratory Certifications

AL - 41040
CA - 2089
DE - SC012
ME - SC012
NC - 233
RI - 135
TN - 02934
VA - 00151
WV - 999887790

AZ - AZ0514
CT - PH-0169
FL - E87156/87294
MS - 10120
NY - 11501
SC - 10120
UT - E-251
WA - C223
WV - 236

EPI Laboratory Certifications

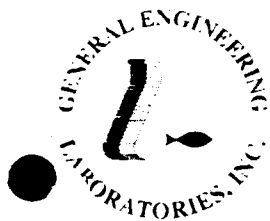
AL - 41050
CA - I-1023/2056
FL - E87472/87458
NY - 11502
SC - 10582
UT - E-227
WA - C225
PA - 68-485

AZ - AZ0514
CT - PH-0175
MS - 29417
RI - 138
TN - 02934
VA - 00111
NJ - 79002
WV - 235

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Analytical Report Specialist





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SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

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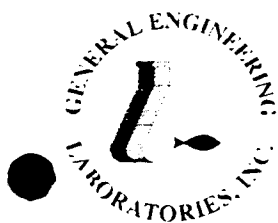
Sample ID : SPORT0134-6
Lab ID : 9608162-06
Matrix : Soil
Date Collected : 08/07/96
Date Received : 08/08/96
Priority : Routine
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>TEX - 4 items</i>											
Benzene	U	0.00	10.0	20.0	ug/kg	10.	THL	08/14/96	1740	88745	1
Ethylbenzene	U	0.00	10.0	20.0	ug/kg	10.					
Toluene	U	0.00	10.0	20.0	ug/kg	10.					
Xylenes (TOTAL)	U	0.00	10.0	20.0	ug/kg	10.					
Naphthalene		21.2	10.0	20.0	ug/kg	10.					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	830	1660	ug/kg	1.0	JCB	08/14/96	0039	88642	2
Acenaphthylene	U	0.00	830	1660	ug/kg	1.0					
Anthracene	U	0.00	830	1660	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	830	1660	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	830	1660	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	830	1660	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	830	1660	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	830	1660	ug/kg	1.0					
Chrysene	U	0.00	830	1660	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	830	1660	ug/kg	1.0					
Fluoranthene	U	0.00	830	1660	ug/kg	1.0					
Fluorene	U	0.00	830	1660	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	830	1660	ug/kg	1.0					
Naphthalene	U	0.00	830	1660	ug/kg	1.0					
Phenanthrene	J	1290	830	1660	ug/kg	1.0	WAM	08/14/96	0039	88642	2
Pyrene	U	0.00	830	1660	ug/kg	1.0	JCB	08/14/96	0039	88642	2

The following prep procedures were performed:
GC/MS Base/Neutral Compounds

TNF 08/12/96 0900 88642 3





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1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106
Contact: Mr. Bill Hiers
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

Page 2 of 3

Sample ID : SPORT0134-6

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
-----------	-----------	--------	----	----	-------	----	---------	------	------	-------	---

Comments:

A dilution was required for Volatile Organics due to matrix interference.
As a result, the detection limits are elevated.

Surrogate Recovery	Test	Percent%	Acceptable Limits
Fluorobiphenyl	M610	66.0	(30.0 - 115.)
Nitrobenzene-d5	M610	52.8	(23.0 - 120.)
p-Terphenyl-d14	M610	91.6	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	107.	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	105.	(74.0 - 128.)
Toluene-d8	BTEX-8260	103.	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	107.	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	105.	(74.0 - 128.)
Toluene-d8	NAP-8260	103.	(53.4 - 163.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

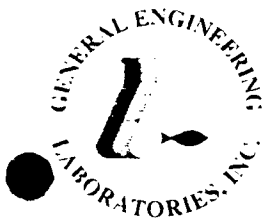
U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

L Laboratory Certifications

EPI Laboratory Certifications





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Project Description: SUPSHIP-Portsmouth Detachment

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Report Date: August 16, 1996

Page 3 of 3

Sample ID : SPORT0134-6

GEL Laboratory Certifications

AL - 41040
CA - 2089
DE - SC012
ME - SC012
NC - 233
RI - 135
TN - 02934
A - 00151
I - 999887790
AZ - AZ0514
CT - PH-0169
FL - E87156/87294
MS - 10120
NY - 11501
SC - 10120
UT - E-251
WA - C223
WV - 236

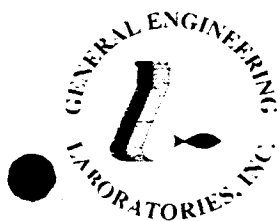
EPI Laboratory Certifications

AL - 41050
CA - I-1023/2056
FL - E87472/87458
NY - 11502
SC - 10582
UT - E-227
WA - C225
PA - 68-485
AZ - AZ0514
CT - PH-0175
MS - 29417
RI - 138
TN - 02934
VA - 00111
NJ - 79002
WV - 235

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Contact: Mr. Bill Hiers
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

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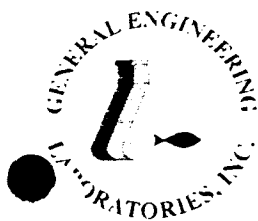
Sample ID : SPORT0134-7
Lab ID : 9608162-07
Matrix : Soil
Date Collected : 08/07/96
Date Received : 08/08/96
Priority : Routine
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>VTX - 4 items</i>											
Jenzene	U	0.00	1.00	2.00	ug/kg	1.0	THL	08/14/96	1809	88745	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	825	1650	ug/kg	1.0	JCB	08/14/96	0111	88642	2
Acenaphthylene	U	0.00	825	1650	ug/kg	1.0					
Anthracene	U	0.00	825	1650	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	825	1650	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	825	1650	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	825	1650	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	825	1650	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	825	1650	ug/kg	1.0					
Chrysene	U	0.00	825	1650	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	825	1650	ug/kg	1.0					
Fluoranthene	U	0.00	825	1650	ug/kg	1.0					
Fluorene	U	0.00	825	1650	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	825	1650	ug/kg	1.0					
Naphthalene	U	0.00	825	1650	ug/kg	1.0					
Phenanthrene	U	0.00	825	1650	ug/kg	1.0					
Pyrene	U	0.00	825	1650	ug/kg	1.0					

the following prep procedures were performed:
GC/MS Base/Neutral Compounds

TNF 08/12/96 0900 88642 3





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Contact: Mr. Bill Hiers
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

Page 2 of 3

Sample ID : SPORT0134-7

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
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Comments:

A dilution was required for Volatile Organics due to matrix interference.
As a result, the detection limits are elevated.

Surrogate Recovery	Test	Percent%	Acceptable Limits
Fluorobiphenyl	M610	76.8	(30.0 - 115.)
Nitrobenzene-d5	M610	64.4	(23.0 - 120.)
p-Terphenyl-d14	M610	113.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	99.5	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	111.	(74.0 - 128.)
Toluene-d8	BTEX-8260	104.	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	99.5	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	111.	(74.0 - 128.)
Toluene-d8	NAP-8260	104.	(53.4 - 163.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

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J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

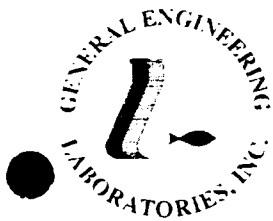
U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

EL Laboratory Certifications

EPI Laboratory Certifications





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Project Description: SUPSHIP-Portsmouth Detachment

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Report Date: August 16, 1996

Page 3 of 3

Sample ID : SPORT0134-7

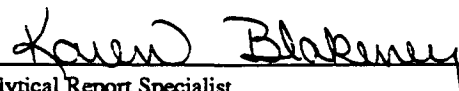
GEL Laboratory Certifications

AL - 41040
CA - 2089
DE - SC012
ME - SC012
NC - 233
RI - 135
TN - 02934
VA - 00151
WI - 999887790
AZ - AZ0514
CT - PH-0169
FL - E87156/87294
MS - 10120
NY - 11501
SC - 10120
UT - E-251
WA - C223
WV - 236

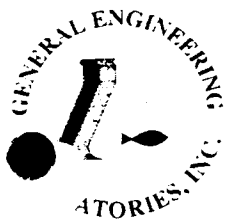
EPI Laboratory Certifications

AL - 41050
CA - I-1023/2056
FL - E87472/87458
NY - 11502
SC - 10582
UT - E-227
WA - C225
PA - 68-485
AZ - AZ0514
CT - PH-0175
MS - 29417
RI - 138
TN - 02934
VA - 00111
NJ - 79002
WV - 235

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Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

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Report Date: August 16, 1996

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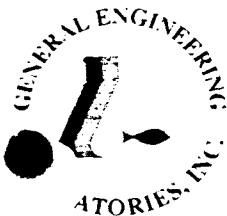
Sample ID : SPORT0134-8
Lab ID : 9608162-08
Matrix : Soil
Date Collected : 08/07/96
Date Received : 08/08/96
Priority : Routine
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
tile Organics											
X - 4 items											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	THL	08/14/96	1838	88745	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene		7.12	1.00	2.00	ug/kg	1.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	166	332	ug/kg	1.0	JCB	08/14/96	0142	88642	2
Acenaphthylene	U	0.00	166	332	ug/kg	1.0					
Anthracene	U	0.00	166	332	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	166	332	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	166	332	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	166	332	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	166	332	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	166	332	ug/kg	1.0					
Chrysene	U	0.00	166	332	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	166	332	ug/kg	1.0					
Fluoranthene	U	0.00	166	332	ug/kg	1.0					
Fluorene	U	0.00	166	332	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	166	332	ug/kg	1.0					
Naphthalene	U	0.00	166	332	ug/kg	1.0					
Phenanthrene	U	0.00	166	332	ug/kg	1.0					
Pyrene	U	0.00	166	332	ug/kg	1.0					

The following prep procedures were performed:
GC/MS Base/Neutral Compounds

TNF 08/12/96 0900 88642 3





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North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

Page 2 of 3

Sample ID : SPORT0134-8

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	75.0	(30.0 - 115.)
Nitrobenzene-d5	M610	69.2	(23.0 - 120.)
p-Terphenyl-d14	M610	108.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	109.	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	95.9	(74.0 - 128.)
Toluene-d8	BTEX-8260	111.	(53.4 - 163.)
mofluorobenzene	NAP-8260	109.	(59.7 - 159.)
romofluoromethane	NAP-8260	95.9	(74.0 - 128.)
oluenes-d8	NAP-8260	111.	(53.4 - 163.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

GEL Laboratory Certifications

AL - 41040
CA - 2089

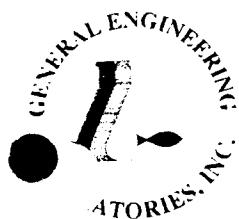
AZ - AZ0514
CT - PH-0169

EPI Laboratory Certifications

AL - 41050
CA - I-1023/2056

AZ - AZ0514
CT - PH-0175





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North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

Page 3 of 3

Sample ID

: SPORT0134-8

GEL Laboratory Certifications

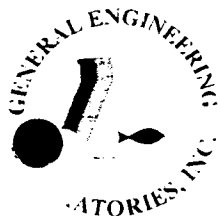
EPI Laboratory Certifications

DE - SC012	FL - E87156/87294	FL - E87472/87458	MS - 29417
ME - SC012	MS - 10120	NY - 11502	RI - 138
NC - 233	NY - 11501	SC - 10582	TN - 02934
RI - 135	SC - 10120	UT - E-227	VA - 00111
TN - 02934	UT - E-251	WA - C225	NJ - 79002
VA - 00151	WA - C223	PA - 68-485	WV - 235
999887790	WV - 236		

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1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

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cc: NPWC00196

Report Date: August 16, 1996

Sample ID : SPORT0134-9
Lab ID : 9608162-09
Matrix : Soil
Date Collected : 08/07/96
Date Received : 08/08/96
Priority : Routine
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
File Organics											
X - 4 items											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	THL	08/15/96	1236	88745	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	662	1320	ug/kg	4.0	BDG	08/14/96	0954	88642	2
Acenaphthylene	U	0.00	662	1320	ug/kg	4.0					
Anthracene	U	0.00	662	1320	ug/kg	4.0					
Benzo(a)anthracene	U	0.00	662	1320	ug/kg	4.0					
Benzo(a)pyrene	U	0.00	662	1320	ug/kg	4.0					
Benzo(b)fluoranthene	U	0.00	662	1320	ug/kg	4.0					
Benzo(ghi)perylene	U	0.00	662	1320	ug/kg	4.0					
Benzo(k)fluoranthene	U	0.00	662	1320	ug/kg	4.0					
Chrysene	U	0.00	662	1320	ug/kg	4.0					
Dibenzo(a,h)anthracene	U	0.00	662	1320	ug/kg	4.0					
Fluoranthene	U	0.00	662	1320	ug/kg	4.0					
Fluorene	U	0.00	662	1320	ug/kg	4.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	662	1320	ug/kg	4.0					
Naphthalene	U	0.00	662	1320	ug/kg	4.0					
Phenanthrene	U	0.00	662	1320	ug/kg	4.0					
Pyrene	U	0.00	662	1320	ug/kg	4.0					

The following prep procedures were performed:
GC/MS Base/Neutral Compounds

TNF 08/12/96 0900 88642 3





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Contact: Mr. Bill Hiers
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

Page 2 of 3

Sample ID : SPORT0134-9

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
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Comments:

A dilution was required for Extractable Organics due to matrix interference. As a result, the detection limits are elevated.

Surrogate Recovery	Test	Percent%	Acceptable Limits
Fluorobiphenyl	M610	98.9	(30.0 - 115.)
Nitrobenzene-d5	M610	57.4	(23.0 - 120.)
p-Terphenyl-d14	M610	131.*	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	115.	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	110.	(74.0 - 128.)
Toluene-d8	BTEX-8260	103.	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	115.	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	110.	(74.0 - 128.)
Toluene-d8	NAP-8260	103.	(53.4 - 163.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

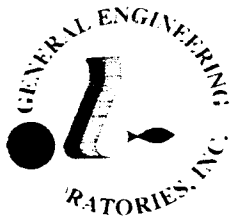
U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

Laboratory Certifications

EPI Laboratory Certifications





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Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

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Page 3 of 3

Sample ID : SPORT0134-9

GEL Laboratory Certifications

AL - 41040	AZ - AZ0514
CA - 2089	CT - PH-0169
DE - SC012	FL - E87156/87294
ME - SC012	MS - 10120
NC - 233	NY - 11501
RI - 135	SC - 10120
VT - 02934	UT - E-251
WA - 00151	WA - C223
WI - 999887790	WV - 236

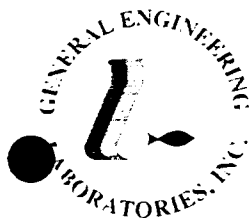
EPI Laboratory Certifications

AL - 41050	AZ - AZ0514
CA - I-1023/2056	CT - PH-0175
FL - E87472/87458	MS - 29417
NY - 11502	RI - 138
SC - 10582	TN - 02934
UT - E-227	VA - 00111
WA - C225	NJ - 79002
PA - 68-485	WV - 235

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1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106
Contact: Mr. Bill Hiers
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

Page 1 of 3

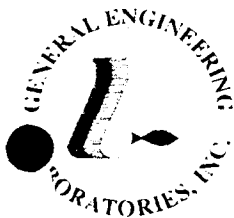
Sample ID : SPORT0134-10
Lab ID : 9608162-10
Matrix : Soil
Date Collected : 08/07/96
Date Received : 08/08/96
Priority : Routine
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>TEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	THL	08/14/96	1936	88745	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	662	1320	ug/kg	4.0	BDG	08/13/96	1313	88642	2
Acenaphthylene	U	0.00	662	1320	ug/kg	4.0					
Anthracene	U	0.00	662	1320	ug/kg	4.0					
Benzo(a)anthracene	U	0.00	662	1320	ug/kg	4.0					
Benzo(a)pyrene	U	0.00	662	1320	ug/kg	4.0					
Benzo(b)fluoranthene	U	0.00	662	1320	ug/kg	4.0					
Benzo(ghi)perylene	U	0.00	662	1320	ug/kg	4.0					
Benzo(k)fluoranthene	U	0.00	662	1320	ug/kg	4.0					
Chrysene	U	0.00	662	1320	ug/kg	4.0					
Dibenzo(a,h)anthracene	U	0.00	662	1320	ug/kg	4.0					
Fluoranthene	U	0.00	662	1320	ug/kg	4.0					
Fluorene	U	0.00	662	1320	ug/kg	4.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	662	1320	ug/kg	4.0					
Naphthalene	U	0.00	662	1320	ug/kg	4.0					
Phenanthrene	U	0.00	662	1320	ug/kg	4.0					
Pyrene	U	0.00	662	1320	ug/kg	4.0					

The following prep procedures were performed:
GC/MS Base/Neutral Compounds

TNF 08/12/96 0900 88642 3





GENERAL ENGINEERING LABORATORIES

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CERTIFICATE OF ANALYSIS

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106
Contact: Mr. Bill Hiers
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

Page 2 of 3

Sample ID : SPORT0134-10

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
-----------	-----------	--------	----	----	-------	----	---------	------	------	-------	---

Comments:

A dilution was required for Volatile Organics due to a high concentration of hydrocarbons. A dilution was required for Extractable Organics due to matrix interference.

's a result, the detection limits are elevated.

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	74.6	(30.0 - 115.)
Nitrobenzene-d5	M610	41.7	(23.0 - 120.)
p-Terphenyl-d14	M610	95.4	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	114.	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	105.	(74.0 - 128.)
Toluene-d8	BTEX-8260	91.6	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	114.	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	105.	(74.0 - 128.)
Toluene-d8	NAP-8260	91.6	(53.4 - 163.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

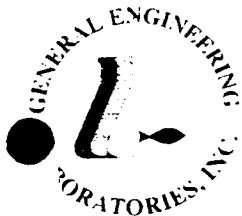
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

' indicates that the analyte was not detected at a concentration greater than the detection limit.

indicates that a quality control analyte recovery is outside of specified acceptance criteria.





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SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

Page 3 of 3

Sample ID : SPORT0134-10

GEL Laboratory Certifications

AL - 41040
CA - 2089
DE - SC012
ME - SC012
NC - 233
RI - 135
V - 02934
A - 00151
WI - 999887790


AZ - AZ0514
CT - PH-0169
FL - E87156/87294
MS - 10120
NY - 11501
SC - 10120
UT - E-251
WA - C223
WV - 236

EPI Laboratory Certifications

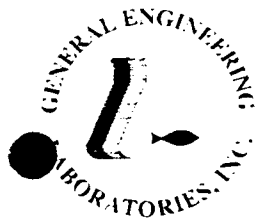
AL - 41050
CA - I-1023/2056
FL - E87472/87458
NY - 11502
SC - 10582
UT - E-227
WA - C225
PA - 68-485

AZ - AZ0514
CT - PH-0175
MS - 29417
RI - 138
TN - 02934
VA - 00111
NJ - 79002
WV - 235

This data report has been prepared and reviewed
in accordance with General Engineering Laboratories
standard operating procedures. Please direct
any questions to your Project Manager, Karen Blakeney at (803) 769-7386.


Analytical Report Specialist





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Page 1 of 3

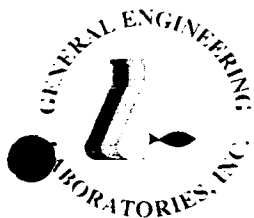
Sample ID : SPORT0134-11
Lab ID : 9608162-11
Matrix : Soil
Date Collected : 08/07/96
Date Received : 08/08/96
Priority : Routine
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>TEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	THL	08/14/96	2005	88745	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	166	332	ug/kg	1.0	BDG	08/13/96	1345	88642	2
Acenaphthylene	U	0.00	166	332	ug/kg	1.0					
Anthracene	U	0.00	166	332	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	166	332	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	166	332	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	166	332	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	166	332	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	166	332	ug/kg	1.0					
Chrysene	U	0.00	166	332	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	166	332	ug/kg	1.0					
Fluoranthene	U	0.00	166	332	ug/kg	1.0					
Fluorene	U	0.00	166	332	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	166	332	ug/kg	1.0					
Naphthalene	U	0.00	166	332	ug/kg	1.0					
Phenanthrene	U	0.00	166	332	ug/kg	1.0					
Pyrene	U	0.00	166	332	ug/kg	1.0					

The following prep procedures were performed:
GC/MS Base/Neutral Compounds

TNF 08/12/96 0900 88642 3





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CERTIFICATE OF ANALYSIS

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SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

Page 2 of 3

Sample ID : SPORT0134-11

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	90.3	(30.0 - 115.)
Nitrobenzene-d5	M610	73.7	(23.0 - 120.)
p-Terphenyl-d14	M610	97.3	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	117.	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	103.	(74.0 - 128.)
Toluene-d8	BTEX-8260	103.	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	117.	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	103.	(74.0 - 128.)
Toluene-d8	NAP-8260	103.	(53.4 - 163.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

GEL Laboratory Certifications

AL - 41040
CA - 2089

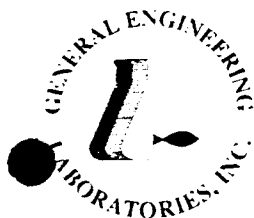
AZ - AZ0514
CT - PH-0169

EPI Laboratory Certifications

AL - 41050
CA - I-1023/2056

AZ - AZ0514
CT - PH-0175





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North Charleston, South Carolina 29405-2106
Contact: Mr. Bill Hiers
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

Page 3 of 3

Sample ID : SPORT0134-11

GEL Laboratory Certifications

DE - SC012
ME - SC012
NC - 233
RI - 135
TN - 02934
VA - 00151
WI - 999887790
FL - E87156/87294
MS - 10120
NY - 11501
SC - 10120
UT - E-251
WA - C223
WV - 236

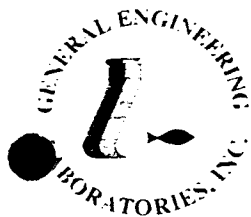
EPI Laboratory Certifications

FL - E87472/87458
NY - 11502
SC - 10582
UT - E-227
WA - C225
PA - 68-485
MS - 29417
RI - 138
TN - 02934
VA - 00111
NJ - 79002
WV - 235

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in accordance with General Engineering Laboratories
standard operating procedures. Please direct
any questions to your Project Manager, Karen Blakeney at (803) 769-7386.


Analytical Report Specialist





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SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106
Contact: Mr. Bill Hiers
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

Page 1 of 3

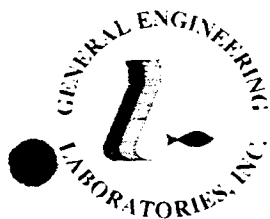
Sample ID : SPORT0134-12
Lab ID : 9608162-12
Matrix : Soil
Date Collected : 08/07/96
Date Received : 08/08/96
Priority : Routine
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
MTX - 4 items											
Benzene	U	0.00	100	200	ug/kg	100	THL	08/14/96	2034	88745	1
Ethylbenzene	U	0.00	100	200	ug/kg	100					
Toluene	U	0.00	100	200	ug/kg	100					
Xylenes (TOTAL)	U	0.00	100	200	ug/kg	100					
Naphthalene	U	0.00	100	200	ug/kg	100					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	1310	2620	ug/kg	4.0	BDG	08/13/96	1417	88642	2
Acenaphthylene	U	0.00	1310	2620	ug/kg	4.0					
Anthracene	U	0.00	1310	2620	ug/kg	4.0					
Benzo(a)anthracene	U	0.00	1310	2620	ug/kg	4.0					
Benzo(a)pyrene	U	0.00	1310	2620	ug/kg	4.0					
Benzo(b)fluoranthene	U	0.00	1310	2620	ug/kg	4.0					
Benzo(ghi)perylene	U	0.00	1310	2620	ug/kg	4.0					
Benzo(k)fluoranthene	U	0.00	1310	2620	ug/kg	4.0					
Chrysene	U	0.00	1310	2620	ug/kg	4.0					
Dibenzo(a,h)anthracene	U	0.00	1310	2620	ug/kg	4.0					
Fluoranthene	U	0.00	1310	2620	ug/kg	4.0					
Fluorene	U	0.00	1310	2620	ug/kg	4.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	1310	2620	ug/kg	4.0					
Naphthalene	U	0.00	1310	2620	ug/kg	4.0					
Phenanthrene	U	0.00	1310	2620	ug/kg	4.0					
Pyrene	U	0.00	1310	2620	ug/kg	4.0					

the following prep procedures were performed:
GC/MS Base/Neutral Compounds

TNF 08/12/96 0900 88642 3





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CERTIFICATE OF ANALYSIS

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106
Contact: Mr. Bill Hiers
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

Page 2 of 3

Sample ID : SPORT0134-12

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
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Comments:

A dilution was required for Volatile Organics due to a high concentration of hydrocarbons. A dilution was required for Extractable Organics due to matrix interference.

As a result, the detection limits are elevated.

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	103.	(30.0 - 115.)
Nitrobenzene-d5	M610	59.2	(23.0 - 120.)
p-Terphenyl-d14	M610	114.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	105.	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	95.8	(74.0 - 128.)
Toluene-d8	BTEX-8260	103.	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	105.	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	95.8	(74.0 - 128.)
Toluene-d8	NAP-8260	103.	(53.4 - 163.)

M = Method

Method-Description

M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

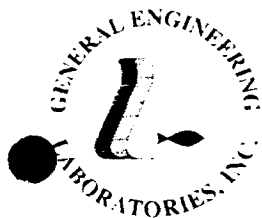
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

† indicates that the analyte was not detected at a concentration greater than the detection limit.

indicates that a quality control analyte recovery is outside of specified acceptance criteria.





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Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 16, 1996

Page 3 of 3

Sample ID : SPORT0134-12

GEL Laboratory Certifications

AL - 41040
CA - 2089
DE - SC012
ME - SC012
NC - 233
RI - 135
TN - 02934
A - 00151
WI - 999887790

AZ - AZ0514
CT - PH-0169
FL - E87156/87294
MS - 10120
NY - 11501
SC - 10120
UT - E-251
WA - C223
WV - 236

EPI Laboratory Certifications

AL - 41050
CA - I-1023/2056
FL - E87472/87458
NY - 11502
SC - 10582
UT - E-227
WA - C225
PA - 68-485

AZ - AZ0514
CT - PH-0175
MS - 29417
RI - 138
TN - 02934
VA - 00111
NJ - 79002
WV - 235

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Analytical Report Specialist



NPWC 00196

CHAIN OF CUSTODY RECORD

Page 1 of 9608162

General Engineering Laboratories, Inc.
 2040 Savage Road
 Charleston, South Carolina 29414
 P.O. Box 30712
 Charleston, South Carolina 29417
 (803) 556-8171

Client Name/Facility Name SPORTENV DETCHASN							SAMPLE ANALYSIS REQUIRED (a) Use appropriate boxes to specify specific compounds or methods																	Use F or P in the boxes to indicate whether sample was filtered and/or preserved							
Collected by/Company SPORTENV DETCHASN							# OF CONTAINERS	pH conductivity	TOC/DOC	TOX	Chloride, Fluoride, Sulfide	Nitrite/Nitrate	VOC - Specify Method required	METALS - specify	Pesticide	Herbicide	Total Phenol	Acid Extractables	B/N Extractables	PAH	Cyanide	Caliform - specify type	BTEX PLUS	BTEX + NAPTH	LEACHATE	Remarks					
SAMPLE ID	DATE	TIME	WELL	SOIL	COMP	GRAB																									
-01	SPORT0134-1	8/7/96	1330	X	X		2												X			X			UST 1137-1	SOIL					
-02	SPORT0134-2	8/7/96	1330	X	X		2												X			X			UST 1137-2	SOIL					
-03	SPORT0134-3	8/7/96	1330			X	5												X				X		UST 1137-3	GW					
-04	SPORT0134-4	8/7/96	1330			X	2												X			X			UST 1137-4	SOIL					
-05	SPORT0134-5	8/7/96	1330			X	2												X			X			UST 1137-5	SOIL					
-06	SPORT0134-6	8/7/96	1330			X	2												X			X			UST 1137-6	SOIL					
-07	SPORT0134-7	8/7/96	1330			X	2												X			X			UST 1137-7	SOIL					
-08	SPORT0134-8	8/7/96	1330			X	2												X			X			UST 1137-8	SOIL					
-09	SPORT0134-9	8/7/96	1330			X	2												X			X			UST 1137-9	SOIL					
-10	SPORT0134-10	8/7/96	1330			X	2												X			X			UST 1137-10	SOIL					
-11	SPORT0134-11	8/7/96	1330			X	2												X			X			UST 1137-11	SOIL					
-12	SPORT0134-12	8/7/96	1330			X	2												X			X			UST 1137-12	SOIL					
-13	SPORT0134-13	8/7/96	1330			X	3																X		UST-1137-13	VOA TRAIL					
Relinquished by: <i>[Signature]</i>							Date: 8/8/96	Time: 1140	Received by: <i>[Signature]</i>							Relinquished by: <i>W.R. Hines Jr.</i>							Date: 8/8/96	Time: 1455	Received by: <i>[Signature]</i>						
Relinquished by: <i>[Signature]</i>							Date: 9/8/96	Time: 1600	Received by: <i>[Signature]</i>							Date: 8/8/96	Time: 1600	Remarks: <i>[Signature]</i>													

White = sample collector

Yellow = file

Pink = with report

Attachment III

Certificate of Disposal (tank)

AST Certificate of Disposal

CONTRACTOR

Supervisor of Shipbuilding, Conversion and Repair, USN
Portsmouth, VA
Environmental Detachment Charleston
1899 North Hobson Avenue
North Charleston 29405-2106

Telephone (803) 743-6482

TANK ID & LOCATION

NH1137-1, NH 1137, Charleston Naval Base, N. Charleston, SC

DISPOSAL LOCATION

Bldg. 1601 Tank Cleaning
& Disposal Area
Charleston Naval Complex

TYPE OF TANK

Fuel oil

SIZE (GAL)

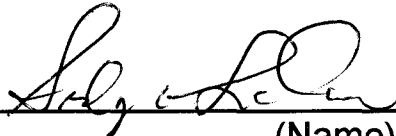
1,000 gal.

CLEANING/DISPOSAL METHOD

The tank was cut open on both ends, cleaned with a steam cleaner, cut into sections, and disposed of as recyclable scrap metal.

DISPOSAL CERTIFICATION

I certify that the above tank has been properly cleaned and disposed of as recyclable scrap metal.

 11-07-96
(Name) (Date)
Sidney Ladson

UST Certificate of Disposal

CONTRACTOR

Supervisor of Shipbuilding, Conversion and Repair, USN
Portsmouth, VA
Environmental Detachment Charleston
1899 North Hobson Avenue
North Charleston 29405-2106

Telephone (803) 743-6482

TANK ID & LOCATION

NH1137-2, NH 1137, Charleston Naval Base, N. Charleston, SC.

DISPOSAL LOCATION

Bldg. 1601 Tank Cleaning
& Disposal Area
Charleston Naval Complex

TYPE OF TANK

Fuel oil

SIZE (GAL)

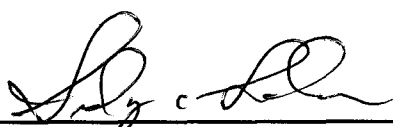
1,000 gal.

CLEANING/DISPOSAL METHOD

The tank was cut open on both ends, cleaned with a steam cleaner, cut into sections, and disposed of as recyclable scrap metal.

DISPOSAL CERTIFICATION

I certify that the above tank has been properly cleaned and disposed of as recyclable scrap metal.

 / 11-07-96
SIDNEY LADSWIN (Name) (Date)